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With compliments of the author

A CASE OF STRICTURE FOLLOWED BY RUPTURE OF THE URETHRA AND EXTRAVASATION OF URINE. EXTERNAL URETHROTOMY. RECOVERY.*

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IT is generally conceded that rupture of the urethra is not due solely to mechanical distention, since we know the bladder is susceptible of great expansion, but to the presence of some lesion, most commonly behind a stricture, that is increased by the constant contact of urine. Cases are on record in which the fundus of this organ has reached quite near the umbilicus without rupture either of the bladder or the urethra. From accounts of extravasation, which I have found quite meager, it would naturally be inferred that extensive infiltration supervenes immediately; but this has not been my experience. Extravasation is a process, generally, of gradual occurrence, advancing so slowly and unobserved by the general practitioner or the patient himself that the mischief has become diffused and the consequences not infrequently have become already disastrous before the surgeon is consulted. Such was the condition in the case which I will describe further on.

My attention was not called to this patient until suppuration had occurred in the scrotum, perinæum, and ileo-abdominal region, and the history of the case very plainly showed that the patient himself never deemed it necessary to apply for medical assistance before considerable damage was established. For several days after the rupture in the urethra had doubtless occurred he was going about, and, although experiencing pain, and weight gradually increasing, never supposed that his case required surgical attention, because the retention of urine was not complete, some being voided at intervals by the urethra. When extravasation finally became extensive and occasioned much suffering, he then requested the aid of the house surgeon, Dr. C. C. Parke, who, as early as possible, invited my attention to the case. All authorities upon this subject are unanimous in advising free incisions into the infiltrated structures, nevertheless they do so with a conscious dread that every incision may become

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a focus of gangrenous slough. Every incision being to a certain extent a constitutional shock, it is eminently important to practice no more than the exigencies of the case appear to demand. Since incisions are therefore universally admitted to be necessary, why not attack without delay the fons et origo mali? The aim in these cases should be to take off the tonicity of the bladder, which can be best accomplished by liberating the accumulating cause of the infiltration. As the kidneys are ever excreting, this can only be done by securing a decided and direct flow from the bladder. Any measure, therefore, looking to radical relief would seem to be especially indicated, for attempts to enter the bladder by means of a catheter are often foiled, and urethro-vesical irritation is so likely to ensue from the presence of a catheter when retained for any length of time in the viscus.

With these considerations strongly in view, I resolved on perineal section in the case which I have to relate.

J. W. A., aged forty-seven years, married, is a driver by occupation and a hard drinker. Is addicted to periodical outbursts of inebriety. About twenty years ago he had a sore on the penis, appearing about four days after a suspicious coitus, followed by a bubo, which suppurated and healed, in the left inguinal region. At the same time the patient noticed a profuse discharge from the urethra, which continued for some weeks. He consulted a physician, who treated him with injections to his speedy relief, not without, however, leaving him subject to chronic gleet, which, of course, meant the establishment of a stricture.

From this date the stream of urine underwent gradual diminution, and terminated finally in retention of urine. This condition was relieved by catheterization. Subsequently he had recurrences of retention which were bridged over for a time in like manner. Next he was subjected to internal urethrotomy, but no sounds were regularly passed after the operation.

For about two years he experienced comparative relief, after which time the symptoms of return of stricture again threatened.

During the past year he has suffered repeated attacks of retention which were treated solely by a resort to the catheter.

On April 12, 1889, according to the statement of Dr. Parke, house surgeon of Charity Hospital, this man was seized with retention of urine, with symptoms of extravasation. Attempts were made, without success, to pass the catheter. At this juncture the patient was etherized, and so enabled to pass some water by the urethra. His condition intensified, nevertheless, in gravity, and on the following day, when my attention was first called to his case, I found his condition extremely critical. The facial expression was anxious, pulse rapid, and temperature 105°. Upon examination, a large, doughy, dusky-red intumescence, hot and painful to the touch, was discovered in the perinæum, a little more prominent to the right of the rhaphe. There was also diffused infiltration into the scrotum, involving the penis and ileo-abdominal region. Having made up my mind that immediate surgical proceedings were demanded, I requested my colleague, Dr. J. E. Kelly, who was

at the time visiting in the hospital, to see the case. I acquainted him with my decision to perform external urethrotomy, in the necessity of which procedure he concurred.

The patient was etherized and an incision made into the perinæum. This liberated a quantity of fœtid pus and urine, and an entrance to the bladder was effected, not without difficulty, of course, owing to the deranged condition of the parts. A flexible catheter of large caliber was now inserted into the bladder through the perineal opening, and, after draining the bladder, it was allowed to remain for several days. Incisions were also made into the scrotum and such other sites as indicated the presence of pent-up-decomposed fluids, permitting their escape, together with sloughing tissues.

Sounds were passed during the progress of the case every second day and the bladder irrigated daily with an antiseptic solution to relieve a cystitis originating from urine which had been retained before the operation. Charcoal and iodoform dressings were applied to the scrotum and other proximate surfaces showing a tendency to slough. At the expiration of eight days the perineal wound had put on a healthy disposition, and all wounds ultimately closed up by healthy granulation. Several small abscesses had formed over the left ileo-abdominal region which were ~~excavated~~ evacuated, and dressed antiseptically, and they also rapidly healed. For several weeks subsequent to the patient's recovery a large-sized sound was regularly passed at stated intervals, and I had the satisfaction of finally discharging him cured.

Had I heeded previous authorities in the treatment of this patient and practiced multiple incisions alone for the relief of the extravasation, I feel assured the case would not have made so speedy and favorable a recovery.

The report of this case is made as a plea for the institution of prompt and decisive measures in such class of sufferers. The patient is thus at once placed not only in a condition of relief, but beyond the instant peril of wide-spread sloughing and possibly septicæmia.

The prognosis, always grave, in cases of urinary extravasation, may be estimated, I submit, in the following order:

1. Should the infiltration not have extended beyond the perineal structures before operation, prospects of recovery are favorable.

2. Should the infiltration have involved the scrotum with the perineal structures, the operation, though affording the best chances of recovery, is not without hazard.

3. Should the infiltration extend into the perinæum and scrotum, involving also the ileo-abdominal region, the danger to the patient is vastly enhanced.

4. Should the infiltration descend to the ischio-rectal space, the prospects for the patient are exceedingly gloomy, since it threatens deep-seated sloughing from destruction of the superficial fascia, and a profound degree of constitutional shock follows in consequence. The powers of endurance of the patient constitute an important factor in the ultimate

success of every surgical operation. Therefore in the consideration of all such cases we must keep especially in view the fact that, unless originating from some traumatic cause, extravasations of the urine occur alone among subjects already so deteriorated morally and physically that they are illy prepared to endure with success the necessary amount of surgical interference for their relief. Nevertheless, to delay the institution of surgical measures in these cases would appear to be an unwarranted speculation upon the patient's powers of further endurance. Should radical operation be delayed and the necessary scarification practiced alone, the patient is required in the end to run the gantlet for his life afresh with superadded constitutional shock through the institution of important surgical measures for his permanent relief. The strongest arguments for speedy operation may be briefly summarized as follows:

The superficial fascia may give way and extravasated urine may gravitate backward, causing extensive sloughing in the ischio-rectal fossa and about the nates, undermining the rectum, as alluded to by Erichsen, and also as occurred in a case which fell under my own notice after this accident had taken place.

The urine, from long retention, becomes particularly concentrated and acrid, and destroys speedily all tissues with which it comes in contact. Expulsion of urine into the perinæum through the minutest aperture along the urinary tract is caused by the natural tonicity of the bladder, and so burrows its way through the scrotal tissues upward, producing severe inflammation in every proximate structure, placing the patient in imminent danger. Yet it is remarkable with what rapidity reparation does occur as soon as the process of infiltration is arrested.